

Best Available Copy

Attorney's Docket: 2002DE129

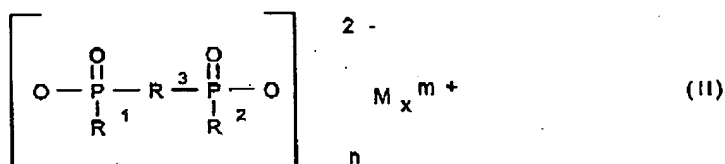
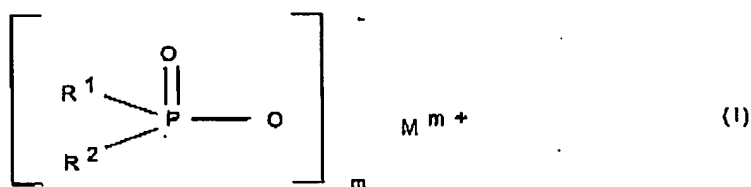
Serial No.: 10/655,888

Art Unit 1621

Response to Examiner's Interview of 08/05/2005

This listing of claims will replace all prior versions, and listings of claims in the application:

1. (Currently Amended) A surface-modified phosphinic salt composition selected from the group consisting of formula (I), a surface-modified diphosphinic salt of the formula (II), mixtures of formula (I) and formula (II) polymers of formula (I), polymers of formula (II) and mixtures of polymers of formula (I) and (II),



where

R¹ and R² are identical or different and are C₁-C₆-alkyl, linear or branched, or aryl;

R³ is C₁-C₁₀-alkylene, linear or branched, C₆-C₁₀-arylene, -alkylarylene, or -arylalkylene;

M is Mg, Ca, Al, Sb, Sn, Ge, Ti, Zn, Fe, Zr, Ce, Bi, Sr, Mn, Li, Na, K, or a protonated nitrogen base;

m is from 1 to 4;

n is from 1 to 4;

x is from 1 to 4,

wherein the phosphinic salt and/or diphosphinic salt, or their polymers, have been encapsulated with a surface layer composed of a synthetic resin or a wax.

Best Available Copy

Attorney's Docket: 2002DE129

Serial No.: 10/655,886

Art Unit: 1621

Response to Examiner's Interview of 08/05/2005

2. (Currently Amended) The composition compound as claimed in claim 1, wherein R^1 and R^2 are identical or different and are C_1 - C_8 -alkyl, linear or branched, and phenyl.
3. (Currently Amended) The composition compound as claimed in claim 1, wherein R^1 and R^2 are identical or different and are methyl, ethyl, n-propyl, isopropyl, n-butyl, tert-butyl, n-pentyl and phenyl.
4. (Currently Amended) The composition compound as claimed in claim 1, wherein R^3 is methylene, ethylene, n-propylene, isopropylene, n-butylene, tert-butylene, n-pentylene, n-octylene or n-dodecylene.
5. (Currently Amended) The composition compound as claimed in claim 1, wherein R^3 is phenylene or naphthylene.
6. (Currently Amended) The composition compound as claimed in claim 1, wherein R^3 is methylphenylene, ethylphenylene, tert-butylphenylene, methylnaphthylene, ethylnaphthylene, or tert-butyl naphthylene.
7. (Currently Amended) The composition compound as claimed in claim 1, wherein R^3 is phenylmethylene, phenylethylene, phenylpropylene, or phenylbutylene.
8. (Currently Amended) The composition compound as claimed in claim 1, wherein M is calcium, aluminum, or zinc.
9. (Currently Amended) The composition compound as claimed in claim 1, wherein the synthetic resin comprises a curable resin.
10. (Currently Amended) The composition compound as claimed in claim 9, wherein the curable resin is an epoxy resin, a phenolic resin, or a melamine resin.

Best Available Copy

Attorney's Docket: 2002DE128

Serial No.: 10/855,888

Art Unit: 1621

Response to Examiner's Interview of 08/05/2005

11. (Currently Amended) The composition compound as claimed in claim 9, wherein the amount of the synthetic resin is from 0.1 to 20% by weight, based on the phosphinic salt.
12. (Currently Amended) The composition compound as claimed in claim 9, wherein the amount of the synthetic resin is from 0.5 to 10% by weight, based on the phosphinic salt.
13. (Currently Amended) The composition compound as claimed in claim 1, wherein the wax is selected from the group consisting of hydrocarbon waxes, ester waxes, oxidized polyolefin waxes, oxidized hydrocarbon waxes, amide waxes, wax acids, wax soaps and a combination of these components.
14. (Currently Amended) The composition compound as claimed in claim 1, wherein the wax is used in a form selected from the group consisting of powder, micropowder, dispersion in water, dispersion in solvent, and in the form of dispersions in water/solvent mixtures.
15. (Currently Amended) The composition compound as claimed in claim 1, wherein the amount added of the wax is from 0.5 to 10% by weight, based on the phosphinic salt.
16. (Currently Amended) The composition compound as claimed in claim 1, wherein a water-emulsifiable organic liquid acting as phlegmatizer is added in an amount of from 0.1 to 5% by weight, based on the phosphinic salt.
17. (Currently Amended) The composition compound as claimed in claim 16, wherein the water-emulsifiable organic liquid is selected from the group consisting of polyglycols, phthalates, and aromatic phosphoric esters.

Best Available Copy

Attorney's Docket: 2002DE129

Serial No.: 10/655,886

Art Unit: 1621

Response to Examiner's Interview of 08/05/2005

18. (Currently Amended) The composition ~~compound~~ as claimed in claim 1, further comprising at least one of the compound selected from the group consisting of melamine phosphate, dimelamine phosphate, melamine pyrophosphate, melamine polyphosphates, melam polyphosphates, melem polyphosphates and melon polyphosphates.
19. (Currently Amended) The composition ~~compound~~ as claimed in claim 1 further comprising at least one melamine condensation product selected from the group consisting of melam, melem, and melon,.
20. (Currently Amended) The composition ~~compound~~ as claimed in claim 1, further comprising at least one compound selected from the group consisting of oligomeric esters of tris(hydroxyethyl) isocyanurate with aromatic polycarboxylic acids, benzoguanamine, tris(hydroxyethyl) isocyanurate, allantoin, glycoluril, melamine, melamine cyanurate, dicyandiamide, and.
21. (Currently Amended) The composition ~~compound~~ as claimed in claim 1, further comprising a nitrogen-containing ~~phosphates~~ phosphate of the formulae $(\text{NH}_4)_y\text{H}_{3-y}\text{PO}_4$ or $(\text{NH}_4\text{PO}_3)_z$, where y is from 1 to 3 and z is from 1 to 10 000.
22. (Currently Amended) The composition ~~compound~~ as claimed in claim 1, further comprising a synthetic inorganic compound, a mineral product or both.
23. (Currently Amended) The composition ~~compound~~ as claimed claim 22, wherein the synthetic inorganic compound or the mineral product is selected from the group consisting of an oxygen compound of silicon, magnesium compounds, metal carbonates of metals of the second main group of the periodic table, red phosphorus, comprises zinc compounds and aluminum compounds.

Best Available Copy

Attorney's Docket: 2002DE129

Serial No.: 10/655,886

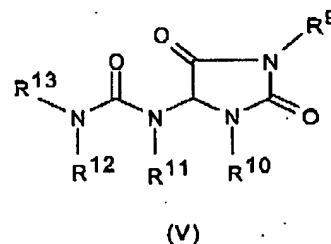
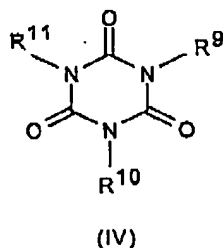
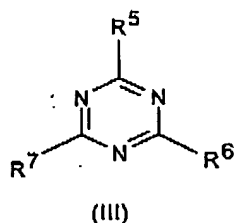
Art Unit: 1621

Response to Examiner's Interview of 08/05/2005

24. (Currently Amended) The composition compound as claimed in claim 23, wherein the oxygen compounds of silicon are selected from the group consisting of salts and esters of orthosilicic acid and condensation products thereof, silicates, zeolites, silicas, glass powder, glass/ceramic powder, ceramic powder; wherein the magnesium compounds are selected from the group consisting of magnesium hydroxide, hydrotalcites, magnesium carbonates and magnesium calcium carbonates; wherein the zinc compounds are selected from the group consisting of zinc oxide, zinc stannate, zinc hydroxystannate, zinc phosphate, zinc borate, and zinc sulfides; and wherein the aluminum compounds are selected from the group consisting of aluminum hydroxide and aluminum phosphate.

25. (Currently Amended) The composition compound as claimed in claim 1, further comprising at least one nitrogen compound.

26. (Currently Amended) The composition compound as claimed in claim 25, wherein the nitrogen compounds are selected from the formulae (III) to (VIII) and mixtures thereof



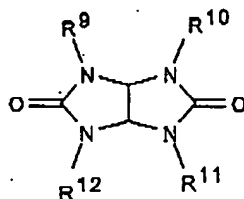
Best Available Copy

Attorney's Docket: 2002DE129

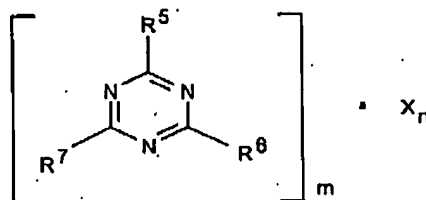
Serial No.: 10/855,886

Art Unit: 1621

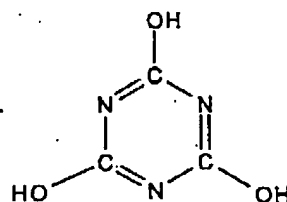
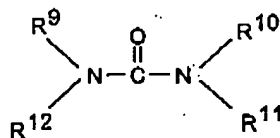
Response to Examiner's Interview of 08/05/2005



(VI)



(VII)



(VIII)

where

R^5 to R^7 are hydrogen, C_1 - C_8 -alkyl, or C_5 - C_{16} -cycloalkyl or -alkylcycloalkyl, unsubstituted or substituted with a hydroxy function or with a C_1 - C_4 -hydroxyalkyl function, C_2 - C_8 -alkenyl, C_1 - C_8 -alkoxy, -acyl, or -acyloxy, C_6 - C_{12} -aryl or -arylalkyl, -OR⁸, -N(R⁸)R⁹, N-alicyclic systems or N-aromatic systems,

R^8 is hydrogen, C_1 - C_8 -alkyl, C_6 - C_{16} -cycloalkyl or -alkylcycloalkyl, unsubstituted or substituted with a hydroxy function or with a C_1 - C_4 -hydroxyalkyl function, C_2 - C_8 -alkenyl, C_1 - C_8 -alkoxy, -acyl, or -acyloxy, or C_6 - C_{12} -aryl or -arylalkyl,

R^9 to R^{13} are the groups of R^8 , or -O- R^8 ,

m and n, independently of one another, are 1, 2, 3, or 4,

X is and acid which can form adducts with triazine compounds (III).

27. (Currently Amended) The composition compound as claimed [[inclaim]] in claim 1, further comprising at least one carbodiimide.

Best Available Copy

Attorney's Docket: 2002DE129

Serial No.: 10/655,886

Art Unit: 1821

Response to Examiner's Interview of 08/05/2005

28. (Currently Amended) A process for preparing composition compounds as claimed in claim 1 comprising the steps of adjusting the pH of an aqueous suspension of a phosphinate to between 4 and 9, then adding an aqueous emulsion of a wax or of a synthetic resin, or a solution of the wax or synthetic resin in a water-miscible solvent, stirring for from 0.5 to 3 hours at a temperature of from 40 to 80°C, wherein 0.1% to 20% wax or synthetic resin are applied to 80 to 99.9 parts by weight of phosphinate.

29. (Currently Amended) A flame-retardant plastics molding composition comprising [[a]] the composition compound as claimed claim 1.

30. (Previously Presented) The flame-retardant plastics molding composition as claimed in claim 29, further comprising at least one thermoplastic polymer, wherein the thermoplastic polymer is selected from the group consisting of HI (high-impact) polystyrene, polyphenylene ethers, polyamides, polyesters, polycarbonates, and blends or polyblends of the type represented by ABS (acrylonitrile-butadiene-styrene), or PC/ABS (polycarbonate/acrylonitrile-butadiene).

31. (Previously Presented) The flame-retardant plastics molding composition as claimed in claim 30, wherein the at least thermoplastic polymer is selected from the group consisting of polyamides, polyester and mixtures thereof.

32. (Previously Presented) The flame-retardant plastics molding composition as claimed in claim 29, further comprising a nitrogen compound and wherein the surface-modified phosphinic salt is used at a concentration of from 1 to 30% by weight, and the nitrogen compound is used at a concentration of from 0.1 to 10% by weight, based in each case on the plastics molding composition.

Best Available Copy

Attorney's Docket: 2002DE128

Serial No.: 10/655,886

Art Unit 1621

Response to Examiner's Interview of 08/05/2005

33. (Currently Amended) A thermoplastic article comprising [[a]] the composition compound as claimed in claim 1, wherein the thermoplastic article is selected from the group consisting of a thermoplastic polymer film, a thermoplastic polymer filament or a thermoplastic polymer fiber.

34. (Previously Presented) The thermoplastic article as claimed in claim 33, wherein the thermoplastic polymer is selected from the group consisting of HI (high-impact) polystyrene, polyphenylene ethers, polyamides, polyesters, polycarbonates, or blends or polyblends of the type represented by ABS (acrylonitrile-butadiene-styrene), or PC/ABS (polycarbonate/acrylonitrile-butadiene-styrene), polyamide, polyester, and ABS.

35. (Currently Amended) The thermoplastic article as claimed in claim 33, comprising:
from 1 to 30% by weight of a composition compound of claim 1
from 1 to 99% by weight of a thermoplastic polymer, or a mixture of thermoplastic polymers,
from 0 to 5% by weight of additives, and
from 0 to 50% by weight of filler.

36. (Currently Amended) The thermoplastic article as claimed in claim 33, comprising:
from 5 to 20% by weight of a composition compound of claim 1
from 48 to 95% by weight of a thermoplastic polymer, or a mixture of thermoplastic polymers
from 0 to 2% by weight of additives, and
from 0 to 30% by weight of filler.

37. (Currently Amended) The composition compound as claimed in claim 9, wherein the amount of the synthetic resin is from 1 to 5% by weight, based in the phosphinic salt.

Best Available Copy

Attorney's Docket: 2002DE129

Serial No.: 10/855,886

Art Unit: 1621

Response to Examiner's Interview of 08/05/2005

38. (Currently Amended) The composition ~~compound~~ as claimed in claim 1, wherein the amount added of the wax is from 1 to 5%, by weight, based on the phosphinic salt.

39. (Currently Amended) The composition ~~compound~~ as claimed in claim 1, wherein a water-emulsifiable organic liquid acting as a phlegmatizer is added in an amount of from 0.1 to 1% by weight, based on the phosphinic salt.

40. (Previously Presented) The process of claim 28, further comprising the steps of adding an aqueous emulsion of an organic liquid, stirring for from 0.5 to 3 hours at a temperature of from 20 to 90°C.

41. (Previously Presented) The process of claim 28 further comprising the step of adding from 0.1 to 5% by weight of phlegmatizer.